Who is part of geofencing? Actors: their roles and interactions in connected freight transport systems

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Background

Geofencing (as ITS-service) is a novel technology in urban freight traffic management…

- Potential benefits for traffic safety & environment
- Dynamic management of traffic and road space
- Part of future introduction of automated vehicles

… however, low understanding of…

- Actors, relationships and interactions
- Governance structures → new actors & new roles
- Role development going from R&I to implementation

We aim to investigate the emerging actor roles and role dynamics in industrial networks of geofencing-applications for freight transport

Geofencing in traffic management

Geofencing is a virtual fence that detects when a vehicle or mobile device enter or exit a geographical defined area and triggers some kind of action in or outside the vehicle

Mainly 3 identified areas of use:

- Control
- Inform
- Performance based

Study based on case study in Swedish context

- Semi-structured interviews

Results

Similarities in view on

- Value of technology
- Functionalities

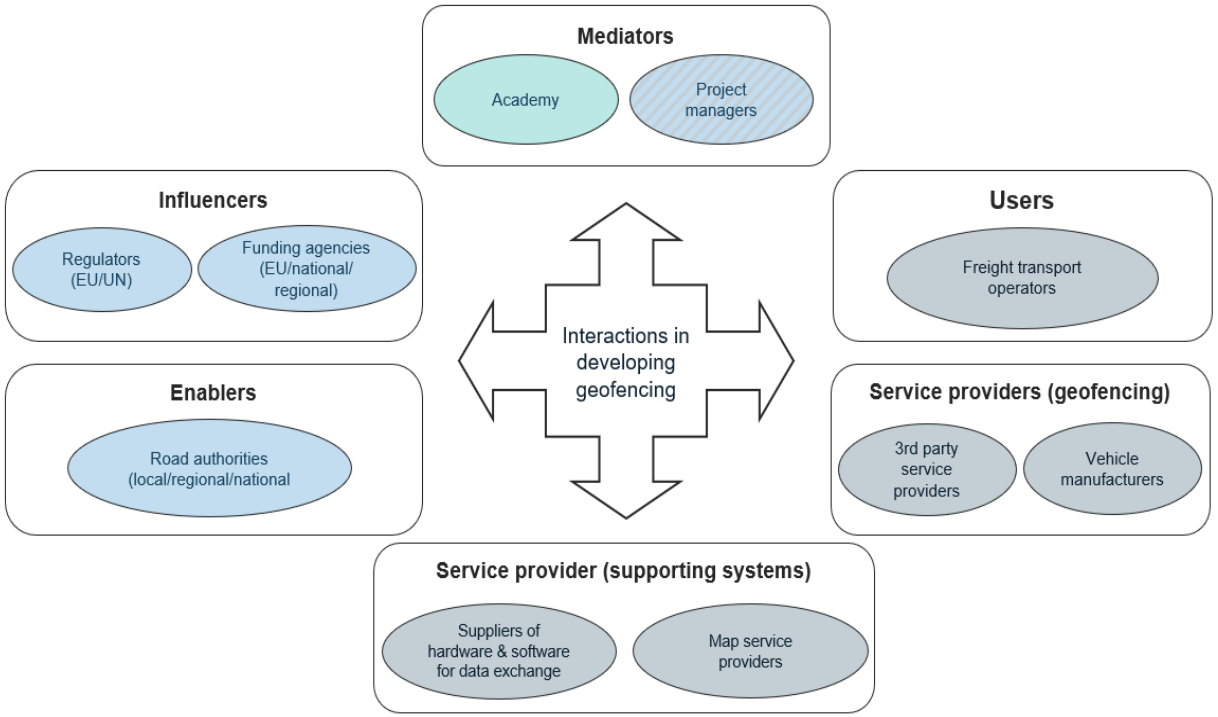
Diverse view on roles and responsibilities among actors

- Design of geofences
- Data sharing

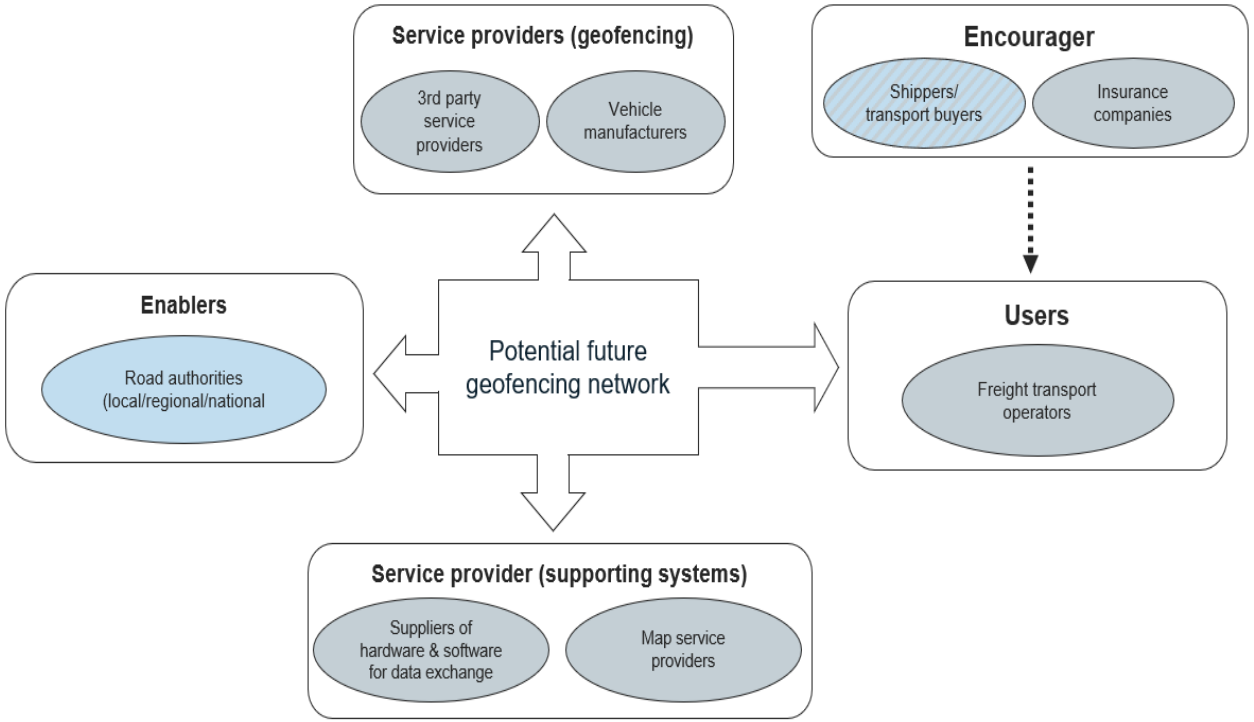
Both difference and similarities in drivers

- Public and private motives

Current geofencing network



Potential future geofencing network



Conclusions

- Many uncertainties affect role definition
  - Affected by expectations on own role and on other's roles
- Role development occurs in both horizontal and vertical organizational levels
- Different types of role changes going from development to implementation
  - Business-as-usual (no direct change)
  - Incremental changes (small step-wise role change)
  - Adapting (Adapt to surrounding network and roles other actors adopt)
  - Path-breaking (new actors, new roles, actor disappear)
- Increased complexity when actors take on multiple roles
- Further research
  - "Actors within actors"
  - Innovation procurement
  - User perspective

Thank you!

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